LCH The Markets' Partner	N°	Title
Instruction	IV.2-2	MARGIN REQUIREMENTS ON DERIVATIVES MARKETS

THIS INSTRUCTION WILL BE ENFORCEABLE FROM 27TH JANUARY 2014

Pursuant to Chapter 2 of Title IV of the Clearing Rule Book.

For any information regarding Margins payment arrangement, Collateral accepted and cash payments please refer to Instruction IV.4-1.

CHAPTER 1 SCOPE

Article 1

This Instruction describes the method for calculating Margin requirements and payment obligations, as well as the means to fulfil these requirements on the Derivatives Markets.

CHAPTER 2 CALCULATION METHODOLOGY

Section 2.1 Initial Margins

Article 2 - Common Provisions

Initial Margin covers the potential future price fluctuations in case of unfavourable markets movements.

Initial Margins for futures and option contracts are calculated using SPAN ® algorithm, specially designed for the Derivatives markets.

The detailed methodology is available on LCH SA web site: www.lchclearnet.com/Risk Management /SPAN ®.

Article 3 - Initial Margin for futures contracts

3.1 The Initial Margin payable on Open Positions in futures contracts must be at least equal to the maximum price fluctuation defined by LCH SA for the relevant futures contract.

3.2 LCH SA may allow a reduction of the Initial Margin to take account of offsetting Open Positions in different expires in the same futures contract.

3.3 If the Initial Margin requirement is greater than the value of the Collateral deposited, a call for additional Margin is made.

3.4 If the Initial Margin requirement is less than the value of the Collateral deposited, refunds are made according to the conditions and timetable set forth in the Treasury Department procedures manual.

3.5 The Initial Margin amount is determined by LCH SA according to the risk level against which LCH SA intends to protect itself.

3.6 The Initial Margin amount and the futures price fluctuation range from which it is determined are published in a Notice.

Article 4 - Initial Margin for option contracts

4.1 For the calculation of Initial Margin on Open Positions in options, all Open Positions in the same underlying Financial Instruments are valued for each of the price assumptions concerning that Financial Instrument.

4.2 Option contracts bought are treated as assets for the positive liquidation value and the option contracts sold are treated as liabilities with negative liquidation value.

For this purpose, the liquidation value of the whole options Open Position in the same underlying is the most negative liquidation value or the least positive liquidation value.

4.3 The most negative liquidation values is the Initial Margin amount required for all the Clearing Member's option Open Positions.

4.4 If the required Initial Margin is greater than the value of the Collateral deposited, a call for additional Margin is made.

4.5 If required Initial Margin is less than the value of the Collateral deposited, refunds are made according to the conditions and timetable set by the Treasury Department procedures manual.

4.6 As part of the calculation process which determines Initial Margin on option Open Positions, LCH SA uses standard valuation models which are generally accepted for the type of products for which they are used (for example Cox, Ross & Rubinstein for equity options, and Black 76 for index, interest rate and commodities options).

4.7. LCH SA inputs the following parameters into the model:

- The price fluctuation range of the underlying asset;
- Interval between each fluctuation assumption;
- benchmark volatility fluctuation range.

The values of these parameters are determined by LCH SA according to the risk level against which LCH SA intends to protect itself. These values are published in a Notice issued by LCH SA.

Section 2.2 Variation Margin

Article 5 - Variation Margin for futures contracts

For futures contracts Variation Margin covers price fluctuations based on the historical data.

Variation Margin on futures contracts is calculated on a daily "marked to market" basis for each Margin Account, Financial Instrument and expiry.

The prices used for the calculation are as follows:

- The previous day's Open Position is valued at the previous day's Settlement Price;
- The day's Transactions are valued at the recorded trade prices.

The end of the day Open Position is marked to market at the day's Settlement Price (i.e. long Open Positions are hypothetically "sold out" and short Open Positions are bought in").

Article 6 - Option Premium

The Option Premium is calculated on the basis of the Transaction price and with regard to the characteristics of each option contract. The variation amount of the Option Premium is included in the Initial Margin amount required on those contracts.

Section 2.3 Intra-day Margin

Article 7- General provision

In addition to the Variation Margins and Initial Margin calculated and called pursuant to Article 4.2.0.1 of the Rule Book and related Instructions, and pursuant to article 4.2.0.3 of the Rule Book, LCH SA calculates Intra-day Margins.

Intra-day Margins are calculated using SPAN® algorithm, specially designed for the Derivatives Markets.

Article 8 - Revaluation scope

The revaluation process dealt with in this section and described in a Notice applies to the prices of Derivatives instruments, and to the prices of their related underlying instruments.

Article 9 – Specific provisions applicable for Intra-day Margin calls on Open Positions resulting from Transaction negotiated on index, equity & currency futures and options.

Intra-day Margins calculation is performed several times per Clearing Day in the course of Intra-day Margin calculation sessions and consists in revaluing Clearing Members Open Positions and Margins on the basis of real-time prices and Open Positions. This calculation process may result in an Intra-day Margin call in the conditions described in this Instruction and related Notices.

Each Intra-day Margin calculation session is qualified as either “With cover call” or “Without cover call” as set-up in a Notice.

By default and as described in a Notice there is one “with cover call” intra-day session per Clearing Day. However in the course of the Clearing Day as described in the related Notice, LCH SA can as it deems necessary re-qualify any “Without cover call” sessions into “With cover call” sessions and vice versa.

A “with cover call” session implies that for each Clearing Member LCH SA compares the amount of Intra-day Margin requirement to the amount of the latest cover call.

LCH SA shall then perform the following process:

- For each Clearing Member for which:

Latest cover call **Collateral posted**	<	Intra-day Margins requirements (as described in a Notice)

LCH SA reevalues the amount of existing Collateral and compares such amount to the amount of Intra-day Margin requirement.

And then,

- For each Clearing Member for which as a result of such comparison it appears that:

existing revalued Collateral	<	Intra-day Margin requirement

then LCH SA performs an Intra-day Margin call.

Article 10- Specific provisions applicable for Intra-day Margin calls on Open Positions resulting from Transaction negotiated on commodities futures and options.

Intra-day Margins calculation is triggered when market thresholds are reached within a specific timeframe. The triggering thresholds are set-out in a Notice.
This calculation process may result in an Intra-day Margin call in the conditions described in this Instruction and related Notices.

Upon occurrence of the triggering event, LCH SA proceeds to the following calculations for each Clearing Member:

Intra-day Margins calculation consists in revaluing Clearing Members Open Positions and Margins on the basis of real-time prices and Open Positions. This calculation process may result in an Intra-day Margin call in the conditions described in this Instruction and related Notices.

1 – Calculation of Open Positions per Margin Account

LCH SA performs snapshots on Open Positions:

Each Open Position is valued, applying the real time prices where available or using revalued prices upon pricing models used within SPAN® algorithm.

2 – Intra-day Margins calculation at Margin Account level.

Based upon these Open Positions valuation, LCH SA calculates

Variation and Initial Margins applying the same methodologies as described under Chapters 2 of this Instruction.

This latter amount is compared to the amount of the latest Margins call.

LCH SA actually performs an Intra-day Margin call for each Clearing Member for which:

latest Margins call		
-	**<**	**Intra-day Margin requirement**
Collateral posted		

provided that the Intra-day Margin call amount reaches thresholds which are set out in a Notice.

Collateral valuation: Collateral will be re-evaluated at real time prices if the Intra-day Margins calculations are triggered before a timeline set out in a Notice.